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REMARKS

Specification Amendments:

The priority claim to the PCT Application and the earlier filed provisional application on Page 1 has been updated. The PCT Abstract has been replaced with new page 17. No new matter has been introduced by virtue of these amendments. Approval of the same is respectfully requested.

Status of the Claims:

Applicant hereby affirms the election made previously to prosecute the invention of Group I, claims 1-4, 7, 8, and 19-44. Given that Claims 9-18 have been withdrawn from further consideration by the examiner, these claims have been cancelled in this response – subject to an appropriate continuing application filing at a later date. New dependent claim 45 has been added. Accordingly, Claims 1-4, 7, 8, and 19-45 are pending herein.

Claim Rejections - 35 U.S.C. § 112

Claims 7, 30 and 32 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. In view of the amendments made herein, this rejection is believed to now be moot. Reconsideration and withdrawal are respectfully requested.

Claim Rejections - 35 U.S.C. § 103

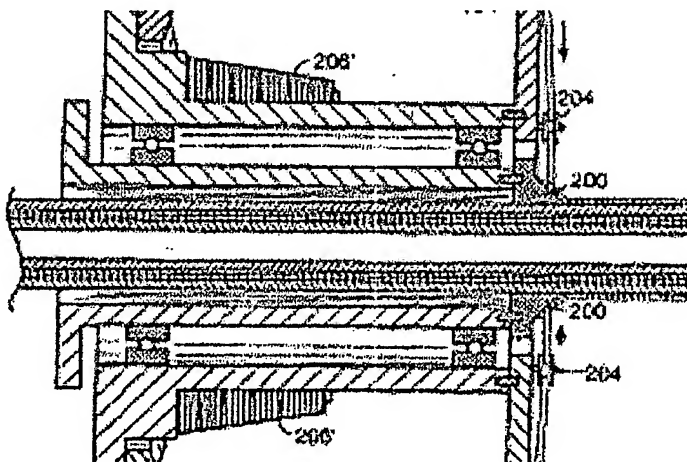
Claims 1-4 and 8 are rejected under 35 U.S.C. § 103(a) as being unpatentable

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over Usui '691 in view of Diehl. In view of the amendments made herein, this rejection is believed to now be moot. Reconsideration and withdrawal are respectfully requested.

Applicant further submits that this combination of prior art does not teach, suggest or otherwise render obvious the invention defined by the amended claims. For instance:

Claim 19 (and all of the remaining claims) recites a "conical aligner, which serves several important functions in the present invention. A preferred version thereof is illustrated in cross-section in Figure 9 of the present application (a portion of which is reproduced below – showing the aligner as "200":



As described in the Summary of the Invention, at page 4, lines 1 – 25:

The cylindrical axial passage is fitted with a conical aligner, which serves as the final guide for guiding the rotating weft yarns into position on the warp yarns in substantially perpendicular alignment. The conical aligner is a stationary unit, which

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has an angled or sloped surface directed toward the forward movement of the warp yarns. A slope ranging from about 30 to 60 degrees has been found to be effective, with a 45-degree slope being preferred.

Each of the weft yarns are delivered to a fixed point on the stationary conical aligner, and from that point each yarn falls down the slope of the aligner and finally falls into place on the cylindrical warp fabric yarns, landing on the adhesive on the exposed surface of the warp yarns. By use of the conical aligner of the present invention, the weft yarns do not overlap one another. Instead, the weft yarns bump one another down the aligner and onto the warp fabric, creating a tight packing of the individual fibers laid transversely around the adhesive and warp yarns as the drum rotates at about 500-600 rpm about its axis. Tension of the weft yarns is provided by the centrifugal rotation of the drum.

It will be appreciated that both the tensioning of the weft yarns and the conical aligner's guiding of the placement of the weft yarns at the surface of the warp yarn material, in conjunction with the rotation of the weft yarns around the warp yarn material results in very high accuracy of weft yarn placement. High accuracy of the yarn placement can result in high weft yarn packing density, uniformity of the weft yarn, structural engineering of the fabric based on known placement of the weft yarns, and overall improved performance of the product.

Neither Usui US 4,265,691 nor Diehl US 3,041,230 discloses or suggests the use of a conical alignment guide as required by the pending claims. Instead, they teach the following:

Usui ('691) teaches no alignment device or mechanism. See Figures 3, 5, and 11 as well as the descriptions thereof in the specification.

Diehl teaches no alignment device or mechanism in the winding devices best

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illustrated in Figures 36, 37, 39, and 41 as well as the descriptions thereof in the specification.

Accordingly, Applicant submits that the combined teachings of Usui ('691) and Diehl does not render the amended claim obvious.

Claims 3, 4, 7, 19- 38, and 42-44 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the references as set forth above in paragraph 8 further taken with any one of Usui '424, Rothemeyer et al, Kaczerginski, or Muller.

As above, none of the cited prior art references teach, suggest or otherwise disclose the required conical aligner of the present invention. Accordingly, they fail to set forth a prima facie case of obviousness for the claims pending herein.

Specifically, Usui ('424) does not disclose or suggest the use of a conical alignment guide "about which said weft yarn is wound prior to falling down upon, and being wound about, said warp yarns" as required by our claim 19. Instead, in Usui '424, the inner surfaces of the nozzles (51, 51') guide a synthetic resin (50) to an opening (54, 54A) in the nozzle and then directly onto a tubular mandrel (11a).

Röthemeyer et al. do not disclose or suggest the use of a conical alignment guide "about which said weft yarn is wound prior to falling down upon, and being wound about, said warp yarns" as required by our claim 19. Instead, in Röthemeyer, the inner surfaces (20) of the alignment guides (2, 2a, 2b) deflect the yarns (22) from the holes (6) of the positioning ring (4) directly onto a tubular mandrel (32).

Muller does not disclose or suggest the use of a conical alignment guide "about which said weft yarn is wound prior to falling down upon, and being wound about, said

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warp yarns" as required by our claim 19. Instead, in Muller, the outer surface (49) of the cord guide (7) supports the cords (30) as they move directly from the spindles (29) into holes (54) in the cord guide and then directly onto a tubular core (1).

Kaczerginski does not disclose or suggest the use of a conical alignment guide "about which said weft yarn is wound prior to falling down upon, and being wound about, said warp yarns" as required by our claim 19. Instead, in Kaczerginski, the inner surface of the platen (57) guides the fibers (30) as they move from the spindles (56) directly onto a tube (40).

Applicant submits that the combined teachings of this cited prior art does not render the amended claims obvious.

Claims 39-41 are rejected under 35 U.S.C. § 103(a) as being unpatentable over the references as set forth above in paragraph 9 further taken with Whisler et al.

As above, none of the cited prior art references teach, suggest or otherwise disclose the required conical aligner of the present invention. Accordingly, they fail to set forth a prima facie case of obviousness for the claims pending herein.

The addition of Whistler et al. does not change the lack of teaching of the other cited art. Whistler teaches an eyelet array guide device 128, best illustrated in Figure 6. See Col. 5, lines 3-30 regarding this device.

Applicant submits that the combined teachings of this cited prior art does not render the amended claims obvious.

The pending claims should now be passed to allowance. Such action is

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respectfully requested.

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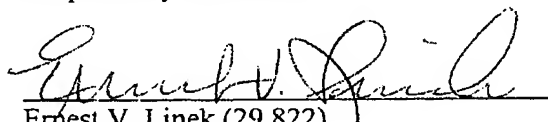
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CERTIFICATE OF FACSIMILE TRANSMISSION

The undersigned hereby certifies that this correspondence was submitted by facsimile in the USPTO on the date shown on Page 1.

Should the Examiner wish to discuss any of the remarks made herein, the undersigned attorney would appreciate the opportunity to do so. Thus the Examiner is hereby invited to call the undersigned, collect, at the number shown.

Respectfully submitted,


Ernest V. Linek (29,822)
Attorney for Applicant

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